



BioWorks®
How You Grow Matters™



Vegetables, Transplants & Herbs: Disease & Insect Management

When planning your next vegetable or herb crop, give your plants a healthy start and keep them clean throughout production with the BioWorks' family of products. (See chart on reverse for timing and rates.)

RootShield® for Root Disease Control

- Provides long-term root protection for all stages of vegetable growing
- Grows on the roots “shielding” them against root damaging fungi such as *Fusarium*, *Pythium*, *Rhizoctonia*, *Cylindrocladium* and *Thielaviopsis*
- Active Ingredient: unique beneficial fungus *Trichoderma harzianum*, strain T-22 that “eats” pathogens
- Cost effective: reduces or eliminates chemical root fungicide applications
- Grows on the roots within a pH range of 4 – 8 at soil temperatures of 48 to 97° F
- 0-hour REI / OMRI Listed and VeriFlora Approved
- Granular formulation for media incorporation or wettable powder for drenching

CEASE® and MilStop® for Foliar Disease Control

CEASE® for covered production (4-hr REI, OMRI Listed) **MilStop®** (1-hr REI, OMRI Listed)

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| <ul style="list-style-type: none"> • Prevents both fungal & bacterial diseases • Controls <i>Botrytis</i>, powdery mildew, <i>Pseudomonas</i>, <i>Xanthomonas</i>, <i>Erwinia</i> • Leaves no unsightly residues • Active ingredients: <i>Bacillus subtilis</i> (strain QST 713) • Safe for beneficial insects and bees • 0-day pre-harvest interval | <ul style="list-style-type: none"> • Kills powdery mildew on contact • Leaves no residues; dries quick, clean • Active ingredient: Potassium Bicarbonate • Cost effective, pre-formulated with surfactants • Can be used in rotation with most chemical pesticides or as a stand alone fungicide • Compatible with many beneficial insects • 0-day pre-harvest interval |
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NemaShield® for Fungus Gnat Larval Control

- Especially useful in greenhouse production and transplant production
- Easy to use dispersible formulation; apply with a sprayer or through an injector
- Active ingredient: *Steinernema feltiae* insect parasitic nematode
- No REI; No human toxicity; exempt from EPA labeling requirements
- Compatible with many pesticides, including insecticides

BotaniGard®, SuffOil-X®, and Molt-X™ for Insect and Mite Control

BotaniGard® (4-hr REI, Organic formulation available)

- Controls whiteflies, thrips, aphids, etc.
- Mycoinsecticide with unique mode of action from *Beauveria bassiana* strain GHA
- Spores work by direct contact with insect
- Compatible with IPM programs and beneficial insects
- Ideal resistance management tool

SuffOil-X® (4-hr REI, OMRI Listed)

- Suffocates and kills eggs, larvae, nymphs and soft bodied insects, mites
- Unique pre-emulsified formulation stays in suspension better than other oils
- Smaller oil particles provide uniform coverage with less chance of phytotoxicity

Molt-X™ (4-hr REI)

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| <ul style="list-style-type: none"> • Protects against both foliar and soil-borne pests • No phytotoxicity on most plants • Excellent for tank mixing or rotating with BotaniGard and SuffOil-X. | <ul style="list-style-type: none"> • Multiple modes of action • Generally safe on beneficial insects and bees |
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To find out more about the BioWorks family of products, please contact us at 800-877-9443 or visit www.bioworksinc.com. © 2008 BioWorks, Inc.

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Disease & Insect Management Program

Vegetables, Transplants & Herbs

Product and Application		Rates						
Root Disease Prevention Use in Propagation and in the Greenhouse or in the Field	RootShield® WP, RootShield® Granules Controls: <i>Rhizoctonia, Pythium, Fusarium, Thielaviopsis</i> and more Field production / in furrow	5-12 lb / acre (RSG) 16-32oz /acre (RSWP)						
	Sow seed or plant clean, disease-free plants into media containing RootShield Granules, OR	1.25 lb / cu.yd.						
	Drench immediately after seeding/planting with RootShield WP*	4 oz / 100 gal.						
	Re-apply RootShield WP again in 10-12 weeks at 1/2 the rate.	2 oz / 100 gal.						
	<i>*RootShield WP can be applied at any stage of the crop to prevent disease.</i>							
	Product and Application		Rates					
Foliar Disease Prevention Use in Propagation and in the Greenhouse or in the Field	CEASE® Controls: <i>Botrytis, powdery mildew, Erwinia, Pseudomonas, Xanthomonas</i> and more Spray as a preventative for <i>Botrytis</i> , powdery mildew and bacterial diseases.	4 qts. / 100 gal. every 5-7 days						
	MilStop® Controls: Powdery mildew, <i>Botrytis</i> and other diseases of vegetable crops When conditions are right for powdery mildew or <i>Botrytis</i> , apply MilStop as a preventative.	1.25 lb to 2.5 lb / 100 gal. every 7-10 days						
	If plants become infected with powdery mildew, use MilStop at the curative rate. When control is achieved, switch to the preventative rates shown above.	3 lbs / 100 gal. every 7-10 days						
	Product and Application		Rates					
	Insect Control Use in Propagation and in the Greenhouse or in the Field	NemaShield® Controls: Fungus gnat larvae and Thrips (WFT) pupae and pre-pupae Apply NemaShield for insect control within the first week after seeding or transplant, or immediately after seeing adults flying.	One 100 million packet / 3,400 sq.ft.					
		Re-application rates and intervals						
For light or heavy infestations. Re-apply in 14 to 21 day intervals at the light infestation rate. For heavy infestations on highly susceptible crops or newly propagated cuttings, follow the rate recommended above and re-apply at the light infestation rate when necessary after 5 to 6 weeks.		One 100 million packet / 1,100 - 2,200 sq.ft.						
BotaniGard® ES and 22WP (Mycotrol® O – organic formulation) Controls: whitefly, aphid, thrips, etc.								
At first sign of insects (egg hatch or small larval instars) apply BotaniGard ES or 22WP at 3 to 10 day intervals. If pest pressure is high, combine initial applications with a contact insecticide or IGR and follow with another BotaniGard spray in 3 to 5 days, making at least 2 applications before returning to the longer spray interval. Can be tank mixed or alternated with Molt-X.		<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; border: none;">Whiteflies, Aphids, Mealybugs:</td> <td style="width: 40%; text-align: right; border: none;">½ to 1 qt(lb) / 100 gal.</td> </tr> <tr> <td style="border: none;">Thrips:</td> <td style="text-align: right; border: none;">1 to 2 qt(lb) / 100 gal.</td> </tr> <tr> <td style="border: none;">Other labeled insects:</td> <td style="text-align: right; border: none;">½ to 2 qt(lb) / 100 gal.</td> </tr> </table>	Whiteflies, Aphids, Mealybugs:	½ to 1 qt(lb) / 100 gal.	Thrips:	1 to 2 qt(lb) / 100 gal.	Other labeled insects:	½ to 2 qt(lb) / 100 gal.
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Thrips:	1 to 2 qt(lb) / 100 gal.							
Other labeled insects:	½ to 2 qt(lb) / 100 gal.							
SuffOil-X® Controls: mites, whitefly, aphids, etc. At first sign, apply SuffOil-x to suffocate all life stages of many pests of vegetables and herbs. Also effective on powdery mildew. Follow all precautions and recommendations for applying horticultural oils. (Note: Herbs not specified on label)	1 to 2 gal. / 100 gal.							
Molt-X™ Controls both foliar and soil borne pests Combine or rotate with BotaniGard for an effective control strategy. Maintain pH of diluted mixture at between pH 5.5 - 6.5.	8 to 10 oz / 100 gal.							

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